

What is claimed is:

1                   1.     An immunostimulatory composition comprising a nucleic acid polymer  
2     encapsulated in a lipid particle comprising a cationic lipid.

1                   2.     The composition according to claim 1, wherein the nucleic acid  
2     polymer is a non-sequence specific immunostimulatory oligodeoxynucleotide sequence.

1                   3.     The composition according to claim 1, wherein the nucleic acid  
2     polymer includes at least one CpG motif.

4                   4.     The composition according to claim 1, wherein the nucleic acid  
polymer has no detectable immunostimulatory activity in the mammal in the absence of the  
lipid particle.

5                   5.     The composition according to claim 1, wherein the nucleic acid  
polymer consists of deoxynucleotide residues joined by phosphodiester linkages.

6                   6.     The composition according to claim 1, wherein the cationic lipid is  
selected from the among DODAP, DODMA, DMDMA, DOTAP, DC-Chol, DDAB,  
DODAC, DMRIE, DOSPA and DOGS.

1                   7.     The composition according to claim 1, wherein the lipid particle further  
2     comprises an exchangeable steric barrier lipid.

1                   8.     The composition according to claim 7, wherein the exchangeable steric  
2     barrier lipid is a PEG-lipid, a PAO-lipid or a ganglioside.

1 9. The composition according to claim 1, further comprising a drug or  
2 cytotoxic agent.

1 10. The composition of claim 9, wherein the drug or cytotoxic agent is  
2 associated with the lipid particle.

1 11. The composition according to claim 1, further comprising an antigenic  
2 molecule selected from among polypeptides, glycolipids and glycopeptides comprising at least  
3 one epitope of the target antigen and nucleic acids encoding at least one epitope of the target  
4 antigen.

1 12. The composition according to claim 11, wherein the antigenic molecule  
2 is associated with the lipid particle.

1 13. The composition according to claim 12, wherein the nucleic acid  
2 polymer is a non-sequence specific immunostimulatory sequence.

1 14. The composition according to claim 11, wherein the nucleic acid  
2 polymer includes at least one CpG motif.

1 15. The composition according to claim 11, wherein the nucleic acid  
2 polymer has no detectable immunostimulatory activity in the mammal in the absence of the  
3 lipid particle.

1 16. The composition according to claim 11, wherein the  
2 oligodeoxynucleotide consists of deoxynucleotide residues joined by phosphodiester linkages.

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17. The composition according to claim 11, wherein the cationic lipid is selected from the among DODAP, DODMA, DMDMA, DOTAP, DC-Chol, DDAB, DODAC, DMRIE, DOSPA and DOGS.

18. The composition according to claim 11, wherein the lipid particle further comprises an exchangeable steric barrier lipid.

19. The composition according to claim 17, wherein the exchangeable steric barrier lipid is a PEG-lipid, a PAO-lipid or a ganglioside.

20. A method for stimulating cytokine secretion in a mammal comprising administering to the mammal a composition comprising a nucleic acid polymer encapsulated in a lipid particle in an amount effective to stimulate cytokine secretion.

21. A method for inducing an immune response to a target antigen, comprising the step of administering to the mammal a composition comprising a nucleic acid polymer encapsulated in a lipid particle comprising a cationic lipid; and

an antigenic molecule selected from among polypeptides, glycolipids and glycopeptides comprising at least one epitope of the target antigen and nucleic acids encoding at least one epitope of the target antigen, said antigenic molecule being associated with the lipid particle, said composition being administered in an amount effective to induce an immune response to the target antigen.